were excluded. For this study, pts were randomly assigned either to a model derivation(n=750) or validation(n=751) group. Logistic regression was used to identify those patient characteristics that best predicted β-blocker utilization in the derivation group. Model goodness-of-fit was assessed, and the model validated.

Results: The mean age of the population was 67±15 yrs, 55% were women, 25% were African American and 69% had coronary artery disease. Assessment of left ventricular function(LVF) was documented in 90% of pts. ACE-I therapy was prescribed in 76% and β-blockers were prescribed in 50% overall and in 59% of pts with systolic HF. In the derivation model, characteristics associated with receiving β-blockers included documented LVF($p<0.01$), systolic dysfunction($p<0.01$), coronary artery disease($p<0.01$), insurance type($p<0.01$), and hypertension($p=03$). Trends were noted for younger age($p<0.01$) and ACE-I therapy($p=0.01$). In the final multivariate model, coronary artery disease, documented LVF, hypertension, and insurance type were significant predictors of β-blocker therapy. Area under the ROC curve for both the final model and the derivation sample was 0.67.

Conclusions: Although not optimal, β-blocker utilization in patients with HF is higher than previously reported. Important predictors of β-blocker prescription in this sample of managed care pts are documented LV function and coronary artery disease. Strategies to increase β-blocker therapy should be developed.

1184-72 Mortality and Morbidity in Men, Women, and Postmenopausal Women in Val-HeFT

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Background: The influence of gender on treatment and survival in congestive heart failure (HF) is understudied. Here, post-hoc analyses of primary endpoints of mortality (M) and combined mortality/morbidity and secondary endpoint of non-fatal morbidity (NFM) examined differences in men, women and postmenopausal women (age ≥ 55years) in the Valsartan Heart Failure Trial (Val-HeFT). **Methods:** 5010 HF patients (4007 men and 1003 women) were randomized to either valsartan (V) or placebo (P) in addition to prescribed HF therapy. Outcomes in pooled populations (V+P) and treatment effects (V vs P) were evaluated using Cox regression analysis.

Results: Regardless of subgrouping by age above or below 55, the pooled population of women had lower M than men (16.3% vs 20.4%, p=0.002) but women, especially postmenopausal women (n=791) had higher NFM (subgroup: ≥55years - 21.1% vs 17.4%, p=0.035). However, women with coronary heart disease, regardless of age above or below 55, had similar M as men (20.5% vs 22.8%, p=0.187) while the higher rate of NFM remained (24.5% vs 16.3%, p<0.001). Similar results were seen with diabetes co-morbidity. The use of background therapy with ACE inhibitors, digoxin, β-blockers and diuretics was similar between women and men, and none of these therapies had an impact on gender differences within the pooled population. Between-treatment analyses for V vs P within males, females and post-menopausal females demonstrated a favorable effect or trend on combined mortality/morbidity endpoint in all three subgroups.

Conclusions: In Val-HeFT, the female gender was associated with lower M but a higher rate of NFM, especially for postmenopausal women. Primary HF etiology of coronary heart disease or a history of diabetes dilutes the gender benefit for M independent of age. These findings suggest that serious attention should be paid to postmenopausal women and those with comorbidities. Future studies should continue to enroll more female patients. Gender differences in HF M and NFM must be seriously considered both in clinical practice and in the design of future HF studies.

1184-73 Replacement of Angiotensin Converting Enzyme Inhibition by Carvedilol Results in Long-Term Reversed Left Ventricular Remodeling in Mild Heart Failure and Is Well Tolerated: Results of the CARMEN (Carvedilol Ace-inhibitor Remodeling in Mild heart failure EvaluatioN) Study

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Background: In chronic heart failure (CHF), the effect of β-blockade on mortality, morbidity and cardiac remodeling have always been evaluated in addition to ACE-I. It is unknown whether the combination is mandatory or whether in terms of remodeling ACE-I can successfully be replaced by β-blockade. CARMEN compared the effect on remodeling of the ACE-I Enalapril (E) against Carvedilol (C), a combined β1 /β2 -blocker with additional α1-receptor blockade and anti-oxidant properties.

Methods: A parallel-group, 3-arm, double-dummy, multi-center study was conducted in 13 European countries. Patients were randomized to C &E, C and E treatment, uptitrated on C to 25mg BID target dose and/or E to 10mg BID target dose, and continued for 18 months. Earlier ACE-I and β-blocking treatment was stopped prior to randomization. In the C&E arm, C was uptitrated first. Effects of left ventricular (LV) remodeling were assessed by transthoracic echocardiography (biplane) at baseline, months 6, 12 and 18 at a central core laboratory.

Results: 572 mild CHF patients, mean age 62 years, 81% males, were randomized. Of these, 65% (N=374) had been on ACE-I treatment prior to the study start, whereas only 6% were on β-blockade. A subgroup analysis of the primary endpoint in former ACE-I users showed that LV end-systolic volume index was reduced at month 18 by 4.7 ml/m^2 (p=0.006) in the C group (n=103) and by 6.0 ml/m^2 (p=0.001) in the C&E group (n=114) from baseline. In contrast, in the E group (n=101) it increased by 0.6 ml/m^2 (ns). The overall safety and tolerability profiles were comparable. In groups C&E, C and E adverse events occurred in 76%,75% and 74 %, respectively, whereas similar percentages of patients completed treatment (74%,70% and 72% respectively).

Conclusion: Combination therapy (C&E) gave best results. However, replacement of ACE-I with C also resulted in significant reversal of cardiac remodeling with sustained, long-term reductions in LV volumes, in contrast to ongoing ACE-I alone. Despite a change in therapy, C patients did not experience more adverse events and a similar number of patients completed the study. Therefore, Carvedilol might be regarded as possible alternative to ACE-I in mild CHF patients.

1184-74 Effects of Intravenous Nesiritide on Coronary Vasomotor Regulation and Myocardial Oxygen Extraction

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Background: Nesiritide (Natrecor®, Scios Inc., Sunnyvale, CA) is a recombinant form of human B-type natriuretic peptide, that has been shown to be beneficial in patients with decompensated congestive heart failure. This study evaluated the effects of nesiritide on coronary blood flow (CBF) and myocardial oxygen extraction.

Methods: Patients referred for cardiac catheterization were enrolled. Patients who had baseline SBP ≤ 95 mm Hg, were on vasopressors, and had received nitroglycerin or calcium blockers within the previous 24 hours were excluded. After diagnostic catheterization and full heparinization, a 0.014-inch Doppler FloWire was positioned in the proximal portion of an unobstructed coronary artery to measure average peak velocity (APV). Right heart catheterization and simultaneous blood gas sampling from the coronary sinus and aorta were performed at baseline and after a 30-min IV infusion of nesiritide (2mcg/kg bolus and 0.01mcg/kg/min). Quantitative coronary angiography was performed at baseline, 15-min, and 30-min. CBF=(coronary artery area)(APV)(0.3). Coronary resistance=mean arterial pressure/CBF.

Results: Ten patients were enrolled. The mean age was 58±12 years (range 43-80). Three were female. Mean left ventricular ejection fraction was 48±20% (range 20-70%). During nesiritide infusion, pulmonary capillary wedge pressure decreased 46% (p=0.002), mean pulmonary artery pressure decreased 19% (p=0.03), systemic vascular resistance decreased 6% (p=0.22), and mean arterial pressure decreased 11% (p=0.007). There was no significant change in cardiac output. Coronary artery APV increased from 21±6 cm/s at baseline to 24±7 cm/s at 5 min (p=0.01), returning to baseline at 15 and 30 minutes. Coronary artery diameter increased 15% at 15- and 30-min (p=0.007). CBF increased 33% at 15 min (p=0.03) and 32% at 30 min (p=0.07). Coronary resistance decreased 29% at 15 min (p=0.02) and 29% at 30 min (p=0.04). Myocardial oxygen extraction decreased 5% at 30 min (p=0.13).

Conclusion: Nesiritide exerts coronary vasodilator effects, in both the epicardial conductance and resistance arteries. There is a trend toward decreased myocardial oxygen extraction during nesiritide infusion.

1184-75 Effect of Nonsurgical Heart Failure Therapies on Functional Mitral Regurgitation: A Meta-Analysis

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Background: Functional mitral regurgitation (MR) is a common echocardiographic finding in patients with congestive heart failure (CHF) and its presence and magnitude are associated with an adverse prognosis. The objective of this systematic overview using meta-analysis was to assess effects of heart failure therapies on functional MR.

Methods: Studies were retrieved using medline and ovid *(key words: mitral regurgitation, heart failure treatment)*. All clinical trials published in English from 1985 to the present date were included. Eighteen previously published studies met the criterion for our analysis. In these studies Doppler echocardiography was used to assess the degree of MR before and at least 1 month after the initiation of ace inhibitors (ace-I), beta-blockers (bb) or pacing in patients with CHF. Standardized effect size of reduction in MR was calculated using Cohen's 'd' for each study. Random effects model was used for the meta-analysis. Pearson's correlation analysis was performed to assess the relation between various echo parameters and MR.

Results: Functional MR was assessed in a total of 594 patients in 18 trials (4 ace-I, 4 bb and 10 pacing). By unweighted analysis, ace-I reduced MR by 59± 20%. With the majority of patients on background ace-I therapy, bb reduced MR by 55± 24%. Pacing reduced MR by 28± 15%, when added to optimal medical therapy. In a random effects model, the effect size (d) of MR reduction by ace-I and bb was large, d = – 1.04± 0.36 (95% CI – 1.75, -0.34) and –1.18± 0.36 (95% CI -1.88,-0.48) respectively. Pacing therapy had a moderate effect on reduction of MR (d= -0.59± 0.08 (95% CI -0.76, -0.43)). Pearson's correlation analysis of effect sizes showed a trend toward reduction in MR correlating with an improvement in LV ejection fraction (r= -0.38, p =0.15) and decrease in LV end diastolic diameter (r= 0.46, p= 0.11).

Conclusion: In patients with CHF and functional MR, ace-I and bb reduce MR to a large extent. Pacing including cardiac resynchronization therapy reduced MR to a moderate extent. Further studies are required to understand the mechanism of these therapies on MR.

1184-76 Do Statins Provide Clinical Benefit in High-Risk Coronary Artery Disease Patients With Advanced Left Ventricular Dysfunction?

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Background: HMG-CoA reductase inhibitors (statins) are one of the most potent modifiers of coronary artery disease (CAD) natural history. Prescription rates and efficacy of statins have not been explicitly studied in patients (pts) with left ventricular dysfunction (LVD, Ejection Fraction [EF]≤40%). Potentially, statins could adversely effect LVD pts due to decreased hepatic blood flow or pharmacologic interaction (e.g. with amiodarone).